MOTOROLA

M68CHPS(D)

# EXORciser II
# CHASSIS/POWER SUPPLY

## User's Guide

MICROSYSTEMS

M68CHPS(D)
SEPTEMBER 1978

# EXORciser II
# CHASSIS/POWER SUPPLY
# USER'S GUIDE

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First Edition
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# CHAPTER 1

# GENERAL INFORMATION

## 1.1 INTRODUCTION

This manual provides general information, chassis description, power supply description and operation, wiring and schematic diagrams, and part lists for the EXORciser II Chassis and Power Supply. A typical EXORciser II chassis is shown in Figure 1-1.

## 1.2 FEATURES

The features of the EXORciser II Chassis and Power Supply include:

- Chassis provides card slots for up to fourteen modules.
- Motherboard provides address, data, and control buses to interconnect up to fourteen modules in any configuration.
- Front panel provides switches for power on, abort, and restart functions, and indicators for VUA and VXA signals.
- Rear panel connector for terminal interconnect.
- Power supply provides all necessary power requirements for modules and user customized circuits.

## 1.3 GENERAL DESCRIPTION

The chassis with the 14-card motherboard and the power supply forms the backbone of the EXORciser II Development System. The chassis consists of the motherboard, card cage, front panel, rear panel, power supply, metal frame, cover, and cables. The EXORciser is supplied to operate on 110 Vac or 220 Vac, 50 to 400 Hz single phase power. A circuit breaker provides protection on the AC input. A connector on the rear panel provides interconnection for RS-232C terminal. Circuit cooling is accomplished by a fan on the rear panel.

Detail information on the chassis is provided in Chapter 2. The power supply is discussed in Chapter 3. A parts list in Chapter 4 lists parts for the chassis, power supply, and cables.

## 1.4 COVER REMOVAL

The EXORciser cover is removed by depressing the cover retaining buttons located near the bottom edge middle on each side of the cover. Slide the cover back off of the four pins.

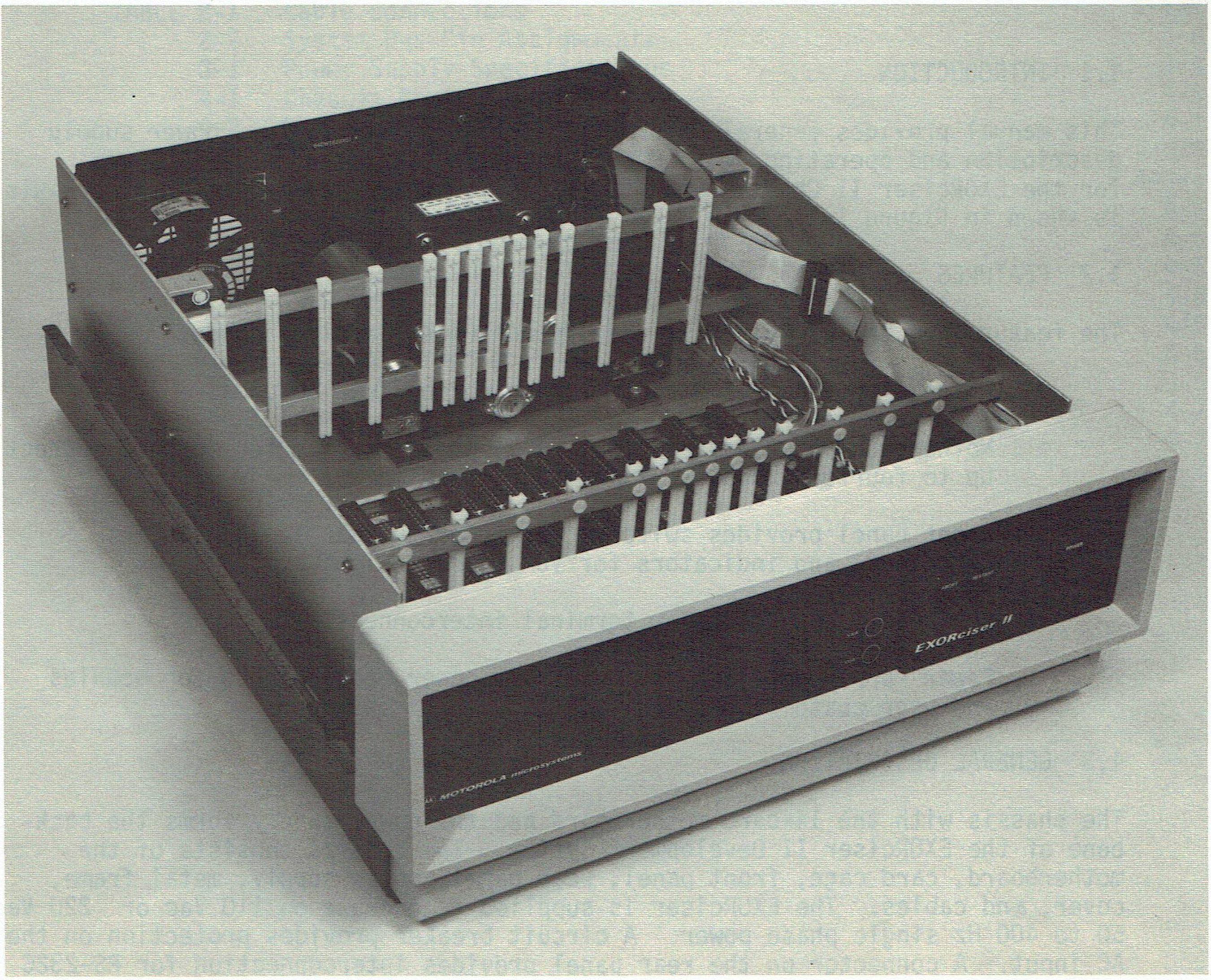


FIGURE 1-1. Typical EXORciser II Chassis

# CHAPTER 2

# CHASSIS

## 2.1 INTRODUCTION

This chapter provides general information, motherboard system bus interconnections, front and rear panel details, and interconnect cables details.

## 2.2 DESCRIPTION

The EXORciser II chassis, as discussed in this chapter, consists of a metal frame, card rack, motherboard, front panel, rear panel, and interconnect cables.

### 2.2.1 Motherboard and Card Rack

The motherboard and card rack is designed to accept up to 14 modules. As shown in Figure 2-1, seven of the circuit card edge connectors are spaced wider apart than the center connectors. This has been done so that the card rack will accept modules with wire wrap headers. The motherboard is designed with parallel track so that all 14 connectors have the same pin assignments. This allows the user to use any card slot for any module. All modules have the same pin assignments also. The motherboard provides the address, data, and control bus interconnection between the modules. The motherboard also supplies the DC voltages from the power supply to the modules.

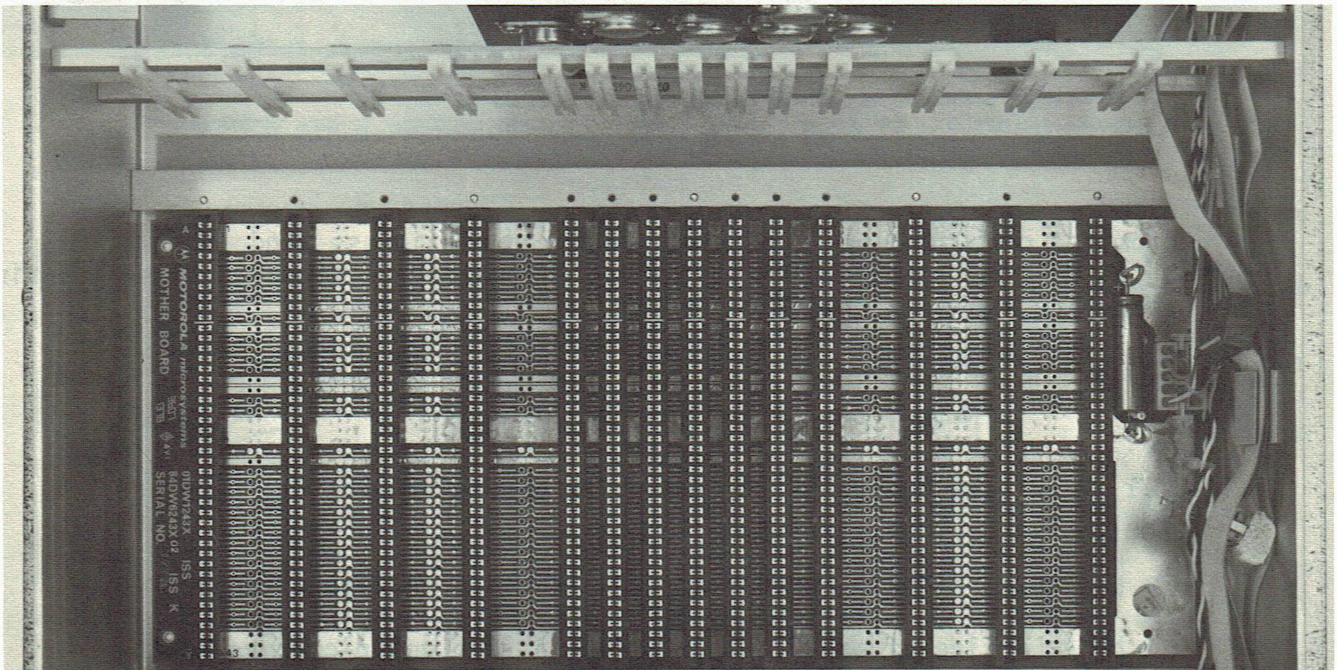


FIGURE 2-1. Motherboard and Card Rack

### 2.2.2 Front Panel

The front panel, shown in Figure 2-2, consists of a metal frame, a switch panel, a LED circuit board, and plexiglass window.

The power switch, with a red neon window, and the ABORT and RESTART momentary contact pushbutton switches are mounted on the switch panel.

The VUA and VXA LED indicators are mounted on the LED circuit board, which is mounted on the front panel frame behind the right side of the plexiglass window.

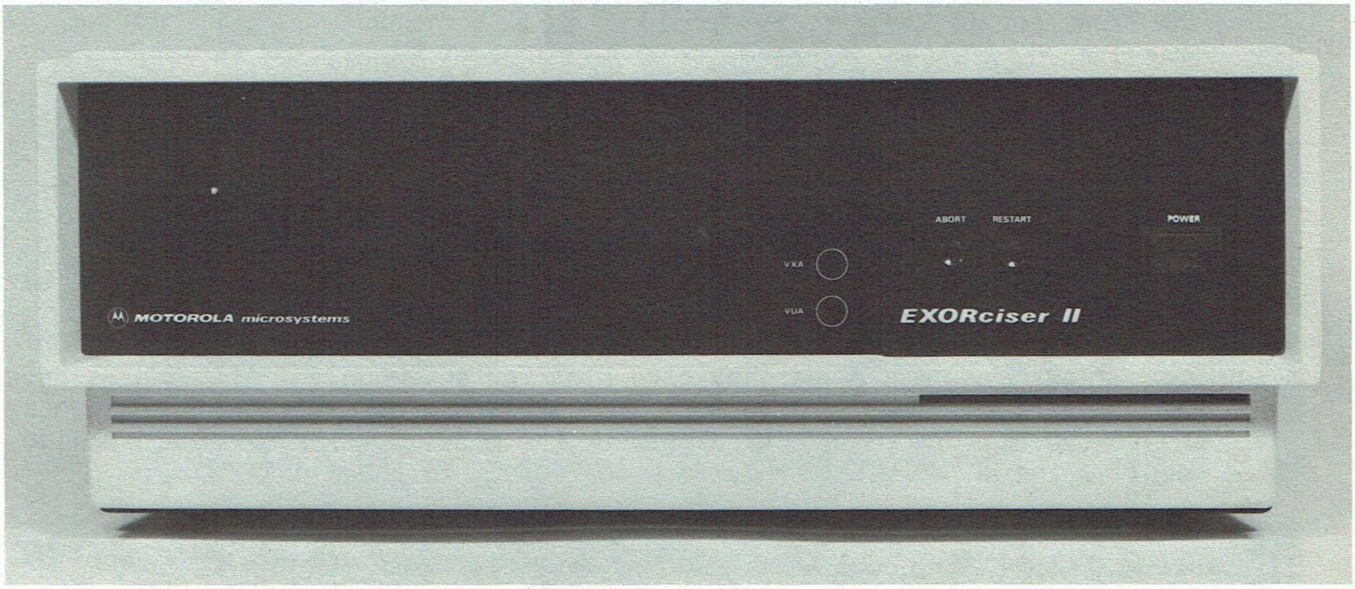


FIGURE 2-2. Front Panel

A customized circuit board and transparent red plexiglass window can be added to the front panel. Details of the circuit board dimensions and mounting procedure are shown in Figure 2-3.

2.2.2.1 Plexiglas Removal - To remove the plexiglas panel, proceed as follows:

a. Remove the LED board from the inside of the front panel.

b. At inside of panel, place thumbs at the upper corners of the plexiglas.

c. Using a firm, steady pressure, push plexiglas loose from double-sided tape.

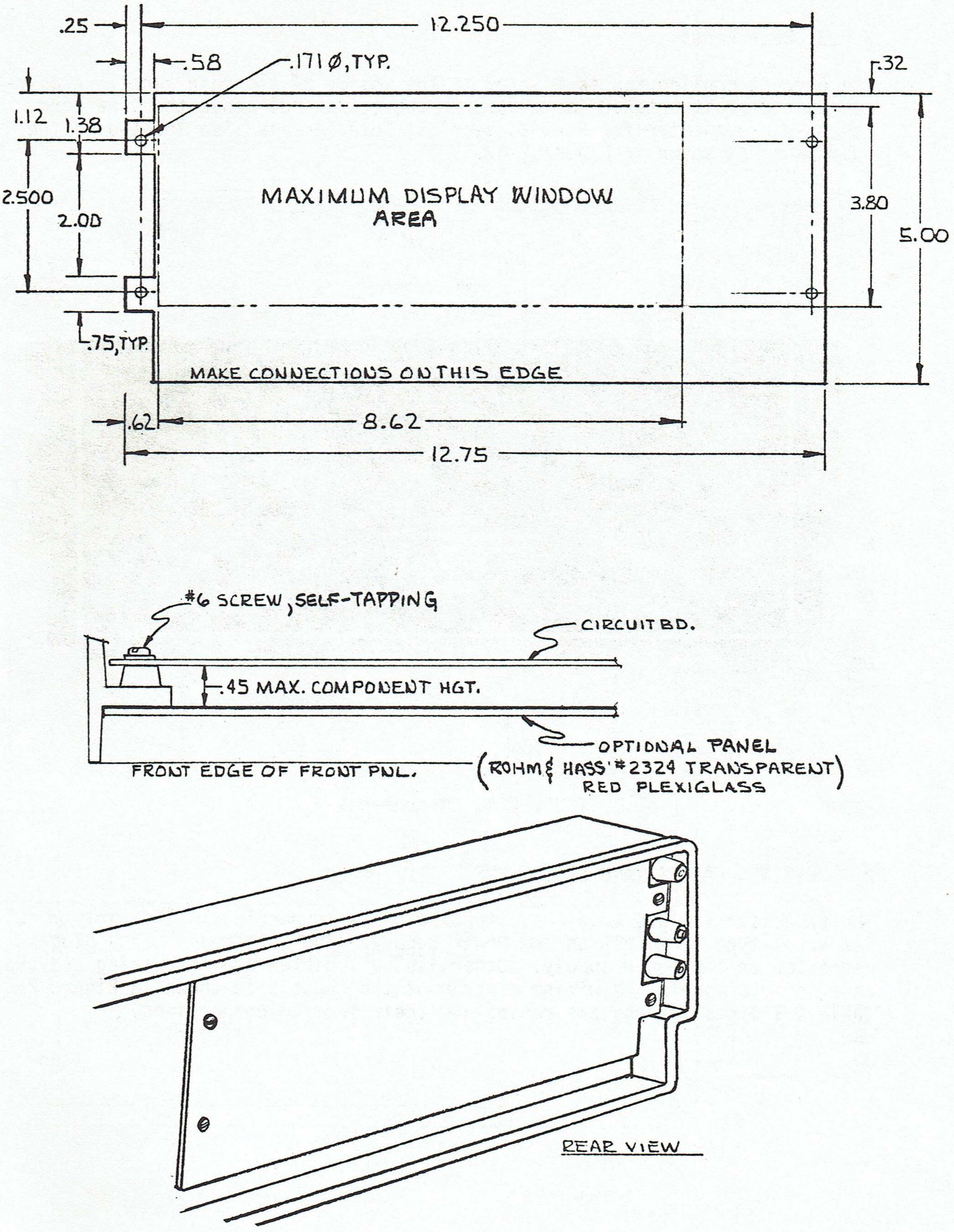


FIGURE 2-3. Customized Circuit Board Details

### 2.2.3 Rear Panel

The circuit cooling fan is mounted to the inside of the rear panel. A push-to-reset circuit breaker is mounted on the rear panel above the line cord. The 25-pin connector for RS-232C terminal interface is also located on the rear panel as shown in Figure 2-4.

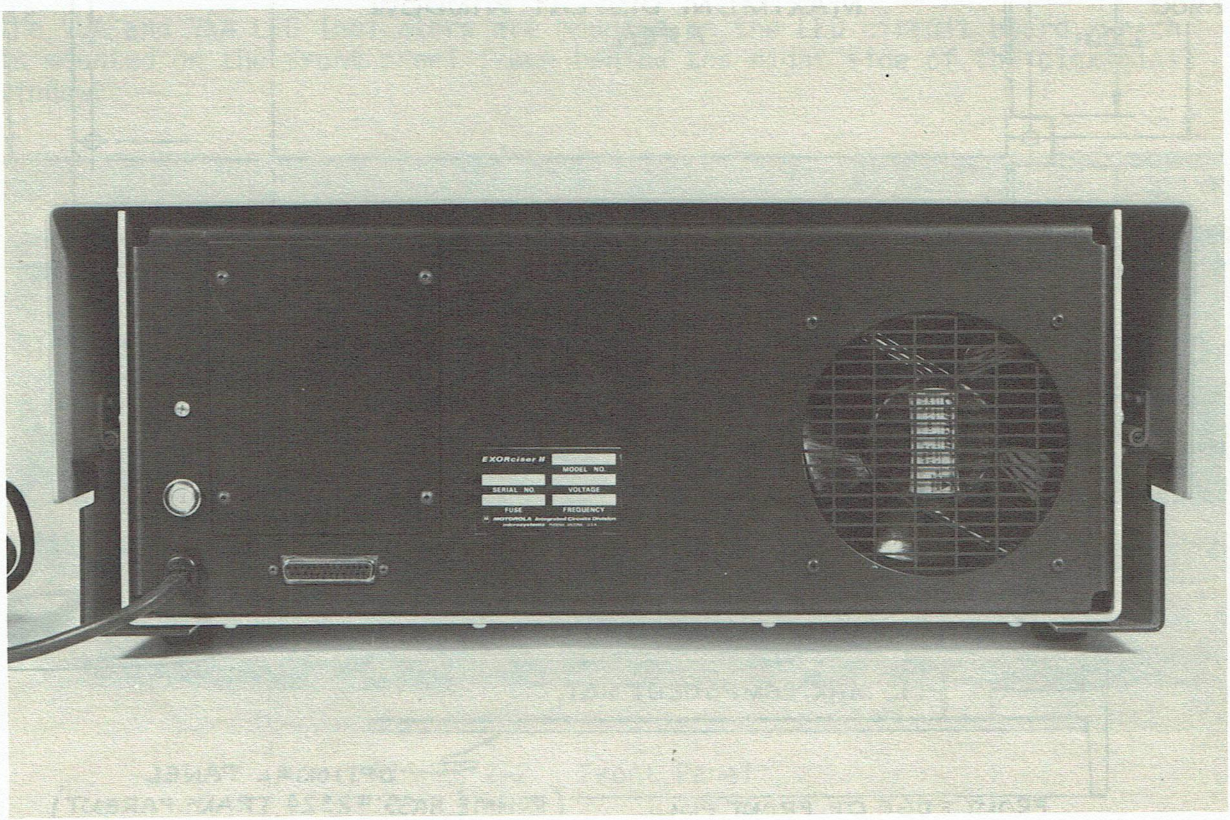


FIGURE 2-4. Rear Panel

## 2.3 WIRING, CABLES, AND SYSTEM BUS

The EXORciser II late model has improved cable connections. The early model has screw-type terminals on the power supply. The late model has a plug-in connector at the power supply. Otherwise, all cables and the wiring are the same in both models. A wiring diagram of the chassis is shown in Figure 2-5. Table 2-1 lists the chassis cables and their from/to connections.

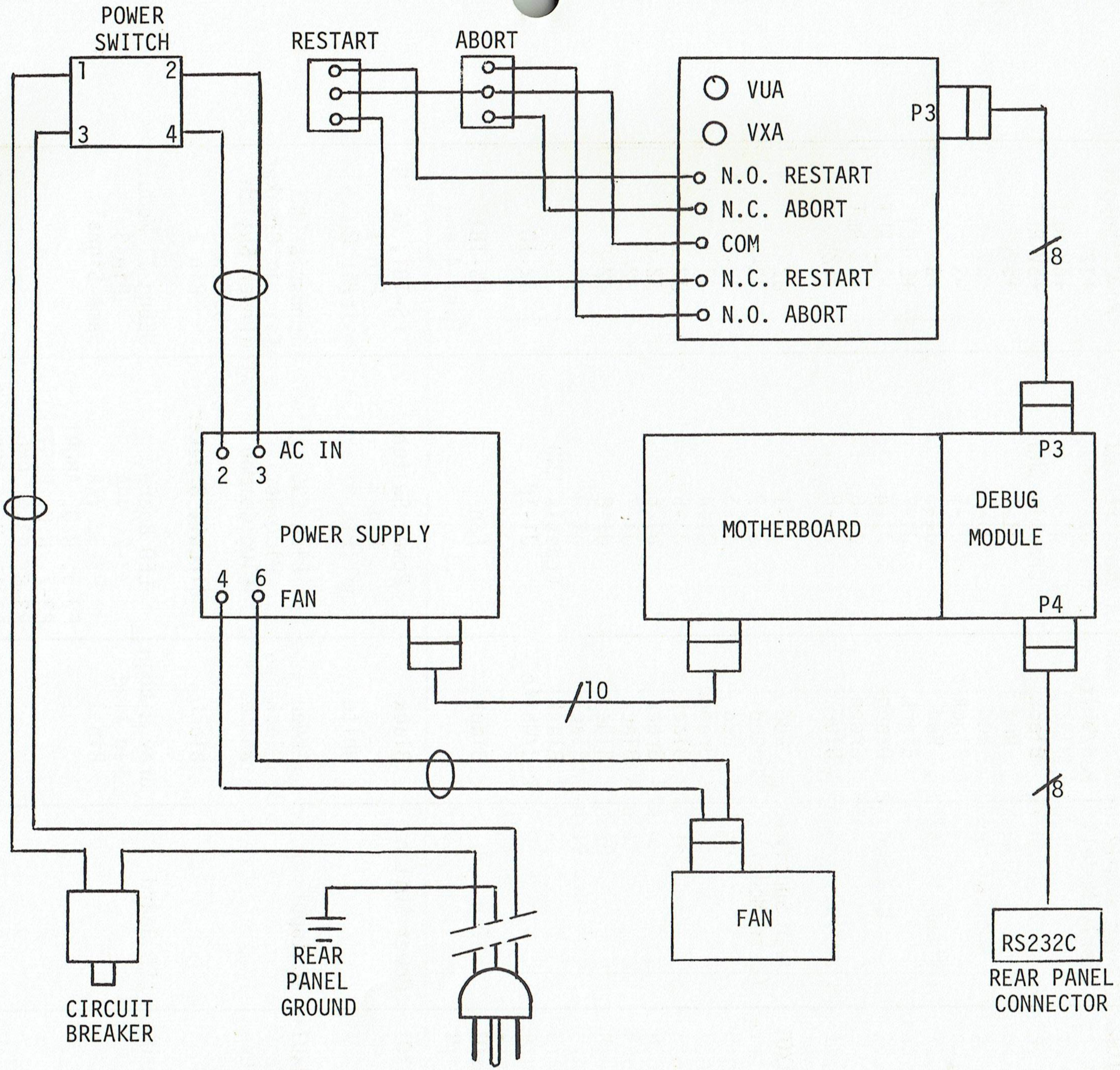


FIGURE 2-5. Chassis Wiring Diagram

TABLE 2-1. Cable Connections

| MOTOROLA PART NUMBER | CABLE | WIRE COLOR | FROM | TO |
|---|---|---|---|---|
| 30CW1603X02 | Power Supply |  | Motherboard | Power Supply |
|  | (Early Model) | Red/White | J1-10 | +12V |
|  |  | Black | J1-9 | +5V RET |
|  |  | Black | Chassis GND | +5V RET |
|  |  | Red | J1-2 | +5V |
|  |  | Red | J1-1 | +5V |
|  |  | Black | J1-5 | -S |
|  |  | Red | J1-3 | +S |
|  |  | Black | J1-7 | +5 RET |
|  |  | Orange | J1-4 | +12 RET |
|  |  | Green | J1-6 | -12 RET |
|  |  | Blue | J1-8 | -12V |
| 30CW1604X01 | Power Supply | Red | J1-1 | J2-1 |
|  | (Late Model) | Red | J1-2 | J2-2 |
|  |  | Red | J1-3 | J2-3 |
|  |  | Orange | J1-4 | J2-4 |
|  |  | Black | J1-5 | J2-5 |
|  |  | Green | J1-6 | J2-6 |
|  |  | Black | J1-7 | J2-7 |
|  |  | Blue | J1-8 | J2-8 |
|  |  | Black | J1-9 | J2-9 |
|  |  | Black | Chassis GND | J2-9 |
|  |  | Red/White | J1-10 | J2-10 |
| 30BW1676X01 | Fan | Black | Fan | PS-TB1 |
|  |  |  |  | Pins 4 and 6 |
| 30BW1675X01 | Power Switch | Black | Power Switch | PS-TB1, AC IN |
|  |  |  | Pin 2 | Pin 1 |
|  |  | White | Pin 4 | Pin 2 |
| 30BW1674X01 | AC Input | Green | Plug GND | Chassis GND |
|  |  | Black | Plug Hot | Circuit Breaker |
|  |  | White | Plug Common | Power Switch |
|  |  |  |  | Pin 3 |
|  |  | Black | Circuit Breaker | Pin 1 |
| 30BW1660X01 | LED Board | Gray Ribbon | LED Board | DEbug II Module |
|  |  | Red line | P3-2, VUA | Pin 3 |
|  |  | Pin 1 | P3-3, VXA | Same Signals |
|  |  |  | P3-5, N.O. ABORT |  |
|  |  |  | P3-7, N.C. RESTART |  |
|  |  |  | P3-8, P3-9, GND |  |
|  |  |  | P3-11, N.O. RESTART |  |
|  |  |  | P3-12, N.C. ABORT |  |

TABLE 2-1. Cable Connections (cont'd)

| MOTOROLA PART NUMBER | CABLE | WIRE COLOR | FROM | TO |
|---|---|---|---|---|
| 30BW1635X01 | RS-232C Interface | Gray Ribbon<br>Red Line<br>Pin 1 | Rear Panel Connector | DEbug II Module P4 |
| | | | Pin 1, GND | Pin 1, GND |
| | | | Pin 2, RX DATA | Pin 3, RX DATA |
| | | | Pin 3, TX DATA | Pin 5, TX DATA |
| | | | Pin 5, Clear To Send | Pin 9, Clear To Send |
| | | | Pin 6, Data Set Ready | Pin 11, Data Set Ready |
| | | | Pin 7, Signal GND | Pin 13, Signal GND |
| | | | Pin 8, Carrier Detect | Pin 15, Carrier Detect |
| | | | Pin 20, Data Terminal Ready | Pin 14, Data Terminal Ready |
| | | | Pin 14 | Pin 2 |
| | | | Pin 15 | Pin 4 |
| | | | Pin 16 | Pin 6 |
| | | | Pin 4 | Pin 7 |
| | | | Pin 17 | Pin 8 |
| | | | Pin 18 | Pin 10 |
| | | | Pin 19 | Pin 12 |
| | | | Pin 21 | Pin 16 |
| | | | Pin 9 | Pin 17 |
| | | | Pin 22 | Pin 18 |
| | | | Pin 10 | Pin 19 |
| | | | Pin 23 | Pin 20 |

### 2.3.1 System Bus Interconnections

The system bus (motherboard) has 14 edge type connectors for module interconnect. The pin assignments are the same for each connector. These pin assignments are identified in Table 2-2; component side and circuit side in table heading refer to inserted module.

TABLE 2-2. System Bus Pin Assignments

| PIN NUMBER (COMPONENT SIDE) | FUNCTION | PIN NUMBER (CIRCUIT SIDE) | FUNCTION |
|---|---|---|---|
| A,B,C | +5V | 1,2,3 | +5V |
| D | $\overline{\text{IRQ}}$ | 4 | G/H |
| E | $\overline{\text{NMI}}$ | 5 | $\overline{\text{RESET}}$ |
| F | VMA | 6 | R/W |
| H | UNUSED | 7 | Ø1 |
| J | Ø2 | 8 | GND |
| K | GND | 9 | GND |
| L | MEM CLK | 10 | VUA |
| M | -12V | 11 | -12V |
| N | $\overline{\text{TSC}}$ | 12 | $\overline{\text{REF REQ}}$ |
| P | BA | 13 | REF GNT |
| R | MEM RDY | 14 | $\overline{\text{DEBUG}}$ |
| S | REF CLK | 15 | TSG |
| T | +12V | 16 | +12V |
| U | ~~STANDBY~~ +12 | 17 | ~~STANDBY~~ +12V |
| V | $\overline{\text{PWR FAIL}}$ | 18 | CLOCK |
| W | $\overline{\text{PARITY-ERR}}$ | 19 | VXA |
| X,Y,Z | GND | 20,21,22 | GND |
| $\overline{\text{A}}$ | NOT USED | 23 | NOT USED |
| $\overline{\text{B}}$ | GND(REF) | 24 | GND(REF) |
| $\overline{\text{C}},\overline{\text{D}},\overline{\text{E}},\overline{\text{F}}$ | RESERVED FOR BUS EXPANSION | 25,26,27,28 | RESERVED FOR BUS EXPANSION |
| $\overline{\text{H}}$ | $\overline{\text{D3}}$ | $\overline{\text{29}}$ | $\overline{\text{D1}}$ |
| $\overline{\text{J}}$ | $\overline{\text{D7}}$ | $\overline{\text{30}}$ | $\overline{\text{D5}}$ |
| $\overline{\text{K}}$ | $\overline{\text{D2}}$ | $\overline{\text{31}}$ | $\overline{\text{D0}}$ |
| $\overline{\text{L}}$ | $\overline{\text{D6}}$ | $\overline{\text{32}}$ | $\overline{\text{D4}}$ |
| $\overline{\text{M}}$ | A14 | 33 | A15 |
| $\overline{\text{N}}$ | A13 | 34 | A12 |
| $\overline{\text{P}}$ | A10 | 35 | A11 |
| $\overline{\text{R}}$ | A9 | 36 | A8 |
| $\overline{\text{S}}$ | A6 | 37 | A7 |
| $\overline{\text{T}}$ | A5 | 38 | A4 |
| $\overline{\text{U}}$ | A2 | 39 | A3 |
| $\overline{\text{V}}$ | A1 | 40 | A0 |
| $\overline{\text{W}},\overline{\text{X}},\overline{\text{Y}}$ | GND | 41,42,43 | GND |

# CHAPTER 3

# POWER SUPPLY

## 3.1 INTRODUCTION

This chapter provides information on the power supplies furnished in the early and late model EXORciser II. A description and schematic for each model are supplied.

## 3.2 GENERAL DESCRIPTION

The early and late model power supplies are basically the same. Both supply the same voltages and currents. Both are the same physical size and are mounted on the same centers. They are interchangeable when the proper three cables are changed and installed (power supply cable, power switch cable, and fan cable). The power supplies will operate on 110 or 220 VAC input. This capability is provided by a jumper arrangement on TB1. Overload protection and power fail regulation are provided on all DC outputs. Over-voltage protection is also provided on the 5 VDC output. Calibration pots allow the outputs and the over-voltage protection to be adjusted. Table 3-1 lists the specifications for the power supplies.

TABLE 3-1. Power Supply Specifications

| CHARACTERISTIC | SPECIFICATION |
|---|---|
| Input Voltage | 95 to 125/205 to 250 VAC<br>47 to 420 Hz Single Phase |
| Output Voltage | +5 VDC ± 0.1%, 15 Amp., 2 mV RMS ripple<br>-12 VDC ± 0.1%, 1.5 Amp., 1 mV RMS ripple<br>+12 VDC ± 0.1%, 2.5 Amp., 1 mV RMS ripple<br>8 VAC, 0.1 Amp. (not used in this application) |
| Calibration Range | 5 VDC - ± 0.5 VDC<br>12 VDC - ± 1.0 Vdc |
| Over-Voltage Protection | 5 VDC output - output rise to 7 volts reduced to 5 volts or less within 50 µsec. |
| Power Fail<br>(Turn on/turn off transients) | 5 VDC output: +7.0 V (max)<br>-0.5 V (max)<br>+12 VDC output: +17.0 V (max)<br>-0.3 V (max) |
| Remote Sense | 5 VDC output - compensate up to 0.5 VDC drop. |
| Operating Temperature | 0 to 70° C - 70% derating between 50 and 70° C. |
| Dimensions | |
| Length | 9.5 inches |
| Width | 6.25 inches |
| Height | 5.0 inches |

### 3.2.1 Early Model Power Supply

As shown in Figure 3-1, the input and output terminals are screw type. The schematic diagram is illustrated in Figure 3-3.

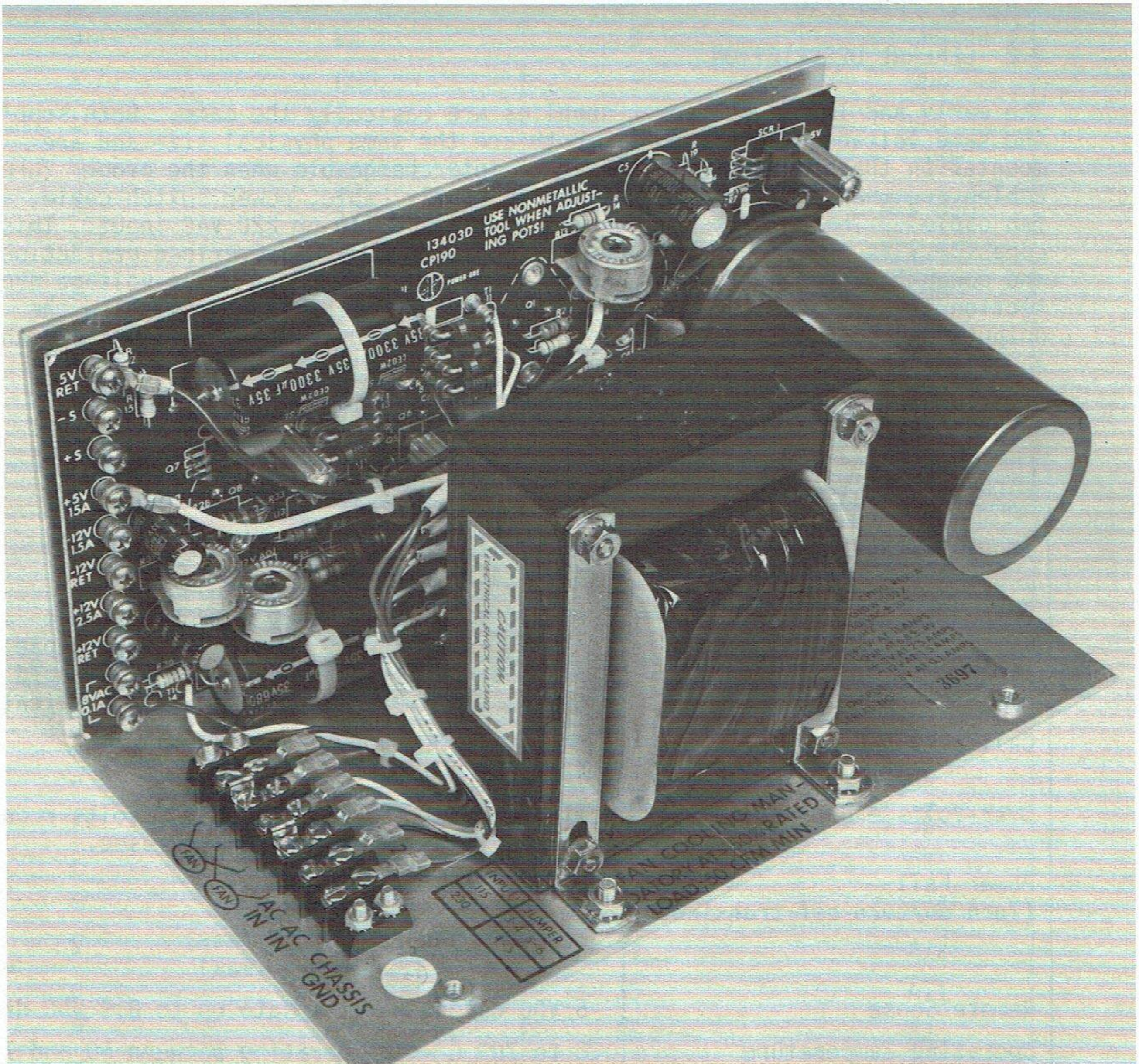


FIGURE 3-1. Power Supply, Early Model

### 3.2.2 Late Model Power Supply

As shown in Figure 3-2, the input terminals are push-on type and the output is a 12-pin connector. The schematic diagram is illustrated in Figure 3-4.

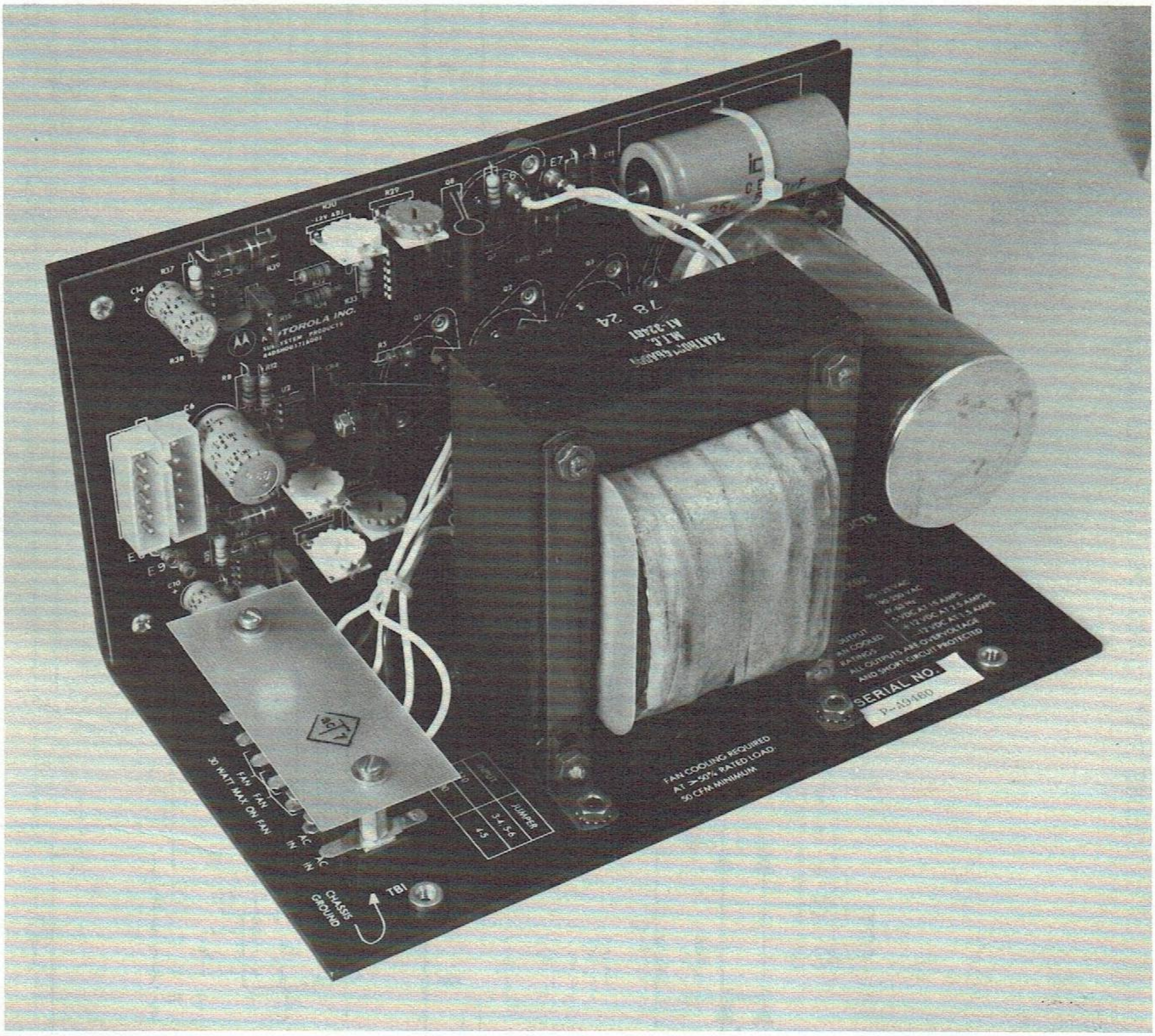
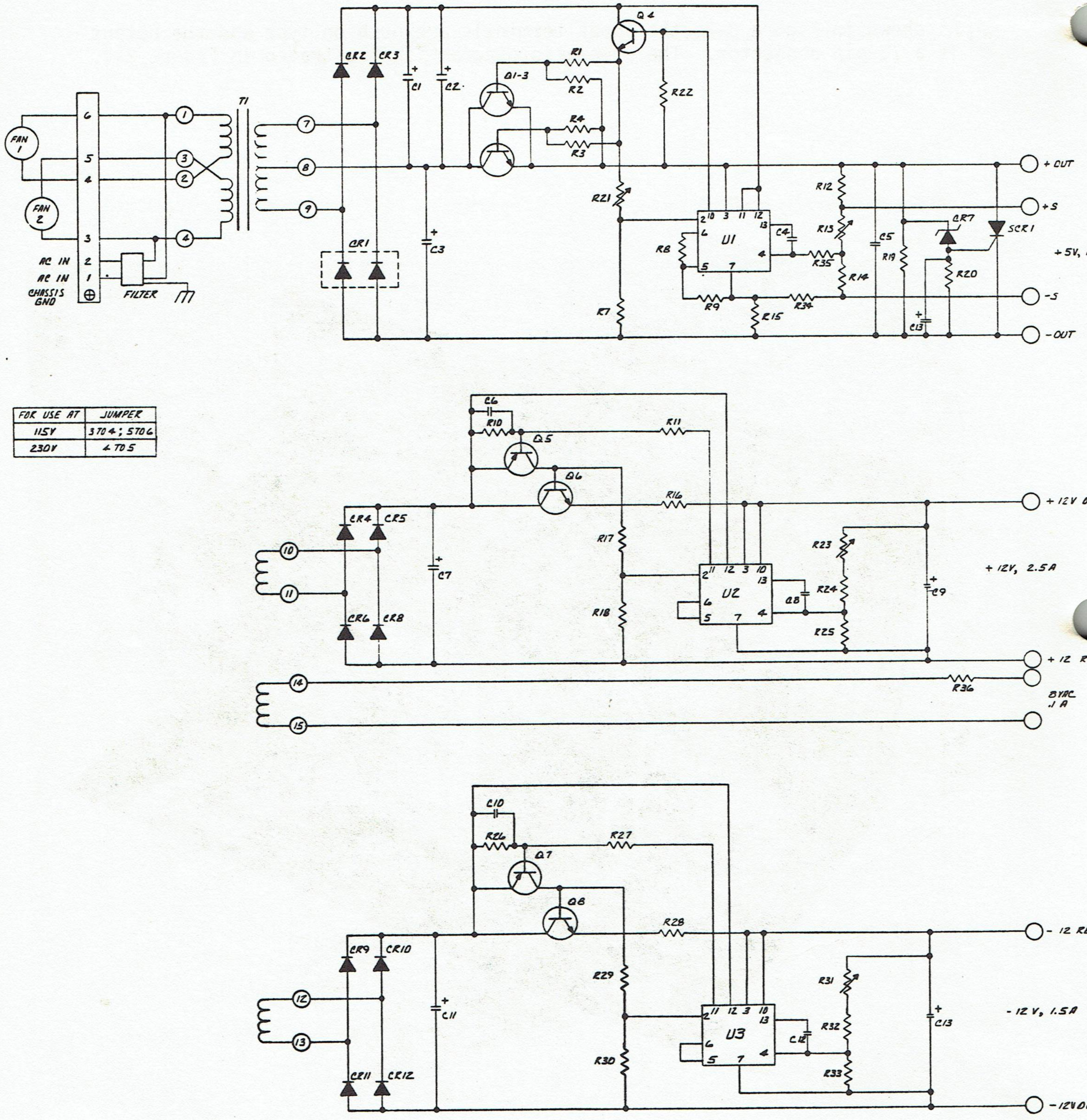


FIGURE 3-2. Power Supply, Late Model



| FOR USE AT | JUMPER |
|---|---|
| 115V | 3 TO 4; 5 TO 6 |
| 230V | 4 TO 5 |

FIGURE 3-3. Power Supply, Early Model Schematic Diagram

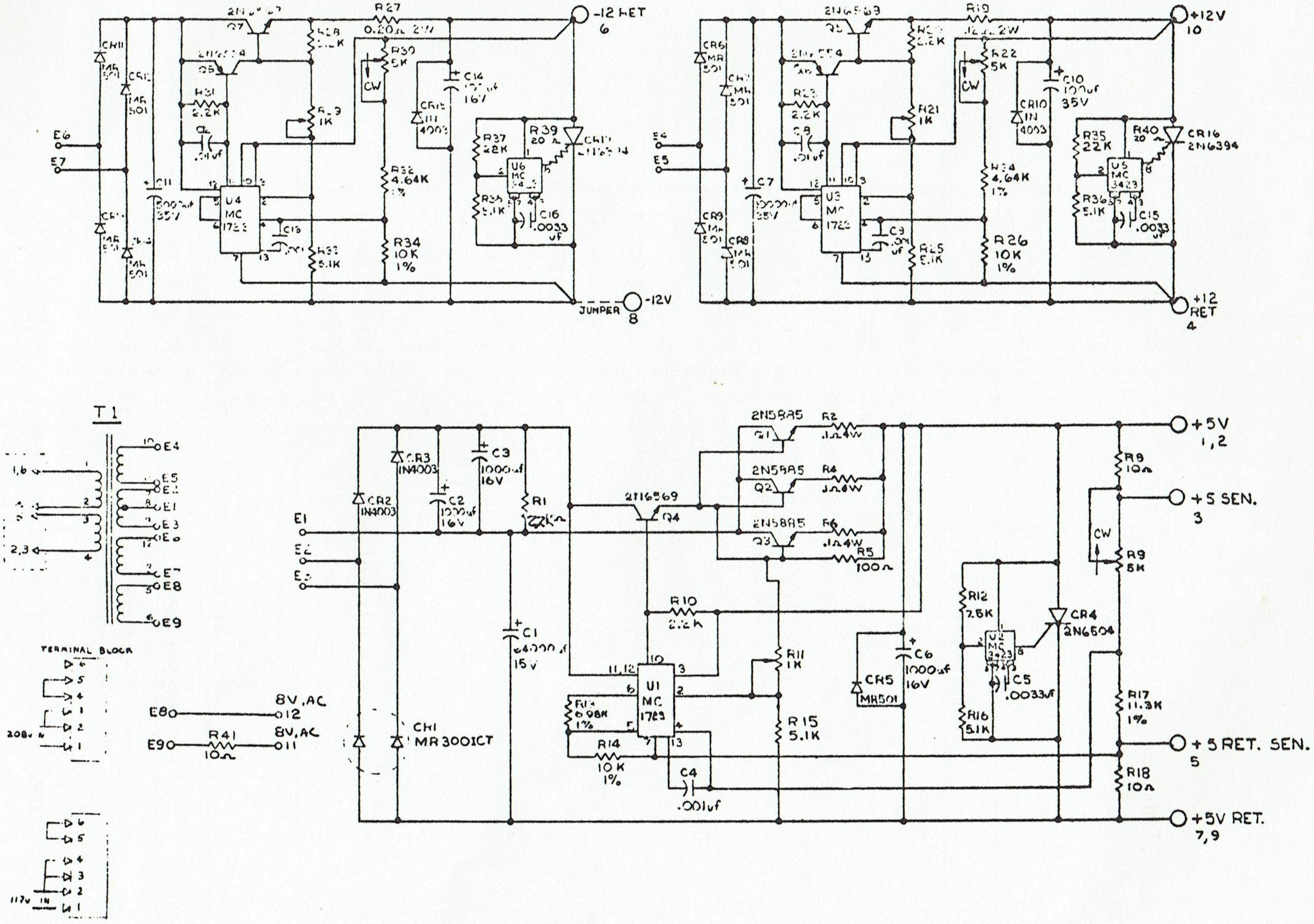


FIGURE 3-4. Power Supply, Late Model Schematic Diagram

# CHAPTER 4

# PARTS

## 4.1 INTRODUCTION

This chapter provides the parts lists for the chassis, front panel, rear panel, cables, and power supplies. The parts lists reflect the latest issue of hardware at the time of printing.

TABLE 4-1. Chassis Parts List

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFEC-TIVITY |
|---|---|---|---|
| | 01EW1620X01 | Chassis Assembly, 110 VAC | P |
| | 01EW1620X02 | Chassis Assembly, 220 VAC | P |
| | 01DW1243X01 | Motherboard Assembly (Table 4-2) | N |
| | 01DW1132X01 | Power Supply 110/220 VAC Early Model (Table 4-3) | |
| | 01DW1132X02 | Power Supply 110/220 VAC Late Model (Replaces 01DW1132X01) (Table 4-4) | |
| | 01DW1615X01 | Rear Panel Assembly (Table 4-5) | M |
| | 01DW1835X01 | Front Panel Assembly (Table 4-6) | L |
| | 30CW1603X02 | Power Supply Cable Early Model (Table 4-7) | |
| | 30CW1604X01 | Power Supply Cable Late Model (Table 4-8) | K |
| | 07NW9502A02 | Card Guide, Lock Tab, Nylon, 4½ inch (28 required) | P |
| | 05NW9003A01 | Lock Tab, Nylon (56 required) | P |
| | 75NW9402A03 | Foot, Rubber, Round | P |

TABLE 4-2. Motherboard Assembly Parts List

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFEC-TIVITY |
|---|---|---|---|
| C1 | 84DW6243X02 | Printed Wiring Board, Motherboard<br>Capacitor, Electrolytic, 1.8K MFD, at 6 VDC, -10 +75 PCT | N |
| C2,C3 | 21NW9702A20 | Capacitor, Fixed Ceramic, 0.1 MED at 50 VDC, 20 PCT | N |
| | 28NW9802B35 | Connector, 10 Contact, Positive Lock | N |
| | 28NW9802A65 | Connector Edge 86 Contact (14 required) | N |

TABLE 4-3. Power Supply Parts List (Early)

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFEC-TIVITY |
|---|---|---|---|
| C1,C2,C5 | | Capacitor, Electrolytic, 1000 MFD at 16 VDC | L |
| C3 | | Capacitor, Electrolytic, 64K MFD at 15 VDC | L |
| C4,C6,C10 | | Capacitor, Fixed, Mylar, .001 MFD at 100 VDC | L |
| C7 | | Capacitor, Electrolytic, 7300 MFD at 35 VDC | L |
| C8,C12 | | Capacitor, Fixed, Mylar, .01 MFD at 100 VDC | L |
| C9,C13 | | Capacitor, Electrolytic, 100 MFD at 35 VDC | L |
| C11 | | Capacitor, Electrolytic, 3300 MFD at 35 VDC | L |
| C13 | | Capacitor, Electrolytic, .1 MFD at 50 VDC | L |
| CR1 | R711A | Diode Bridge | L |
| CR2,CR3 | AE1C | Diode, 1 Amp, 200 V | L |
| CR4,CR5,CR6, CR8,CR9,CR10, CR11,CR12 | AE3B | Diode, 3 Amp, 100 V | L |
| CR7 | IN968A or IN753A | Diode, Zener | L |
| Q1,Q2,Q3 | 12505-2 | Transistor | L |
| Q4 | 12500-5 | Transistor | L |
| Q5,Q7 | 2N6554 | Transistor | L |
| Q6,Q8 | 12505-3 | Transistor | L |
| R1,R3,R5,R12 R15,R34,R35, R36 | | Resistor, Fixed, Carbon, 6.8 ohm, 5%, 1/2 W | L |
| R2,R4,R6 | | Resistor, Fixed, Carbon, 22 ohm, 5%, 1/2 W | L |
| R7,R8,R9,R22 | | Resistor, Fixed, Carbon, 2.2K ohm, 5%, 1/2 W | L |
| R10,R11,R26, R27 | | Resistor, Fixed, Carbon, 180 ohm, 5%, 1/2 W | L |
| R13,R21,R23, R31 | BE54719 (CTS) | Potentiameter, 1.5K ohm | L |
| R14 | | Resistor, Fixed, Film, 1.62K, 2%, 1/4 W | L |

TABLE 4-3. Power Supply Parts List (Early) (cont'd)

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFEC-TIVITY |
|---|---|---|---|
| R16 | | Resistor, Fixed, WW, .12 ohm, 2 W | L |
| R17,R29 | | Resistor, Fixed, Carbon, 270 ohm, 5%, 1/2 W | L |
| R18,R30 | | Resistor, Fixed, Carbon, 4.7K ohm, 5%, 1/2 W | L |
| R19,R20 | | Resistor, Fixed, Carbon, 47 ohm, 5%, 1/2 W | |
| R24,R32 | | Resistor, Fixed, Film, 1.2K ohm, 2%, 1/4 W | L |
| R25,R33 | | Resistor, Fixed, Film, 2.2K ohm, 2%, 1/4 W | L |
| R28 | | Resistor, Fixed, WW, .22 ohm, 2 W | L |
| SCR1 | SD315L | Silicon Controlled Rectifier | L |
| T1 | 13402 | Transformer, Power | L |
| U1,U2,U3 | Ua723 | Voltage Regulator | L |

TABLE 4-4. Power Supply Parts List (Late)

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFEC-TIVITY |
|---|---|---|---|
| C1 | 21ATH0081A001 | Capacitor, Electrolytic, 64K MFD at 15 VDC | |
| C2,C3,C6 | | Capacitor, Electrolytic, 1000 MFD at 16 VDC | |
| C4,C9,C13 | | Capacitor, Fixed, Mylar, .001 MFD at 100 VDC | |
| C5,C15,C16 | | Capacitor, Fixed, Ceramic, .0033 MFD at 50 VDC | |
| C7 | | Capacitor, Electrolytic, 10K MFD at 35 VDC | |
| C8,C12 | | Capacitor, Fixed, Ceramic, .01 MFD at 50 VDC | |
| C10 | | Capacitor, Electrolytic, 100 MFD at 35 VDC | |
| C11 | | Capacitor, Electrolytic, 5000 MFD at 35 VDC | |
| C14 | | Capacitor, Electrolytic, 100 MFD at 16 VDC | |

TABLE 4-4. Power Supply Parts List (Late) (cont'd)

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFECTIVITY |
|---|---|---|---|
| CR1 | MR300ICT | Diode Bridge | |
| CR2,CR3<br>CR10,CR15 | 1N4003 | Diode, Rectifier, 1 Amp, 200 V | |
| CR4 | 2N6405 | SCR, 16 Amp, 800 V | |
| CR5,CR6,CR7,<br>CR8,CR9,CR11,<br>CR12,CR13,CR14 | MR501 | Diode, Rectifier, 3 Amp, 100 V | |
| CR16,CR17 | 2N6394 | SCR, 12 Amp, 50 V | |
| Q1,Q2,Q3 | 2N5885 | Transistor, Power, 60 V, 200 W | |
| Q4,Q5,Q7 | 2N6569 | Transistor, Power | |
| Q6,Q8 | 2N6554 | Transistor, Power | |
| R1,R10,R20,<br>R23,R28,R31 | | Resistor, Fixed, Carbon, 2.2K ohm, 5%, 1/2 W | |
| R2,R4,R6 | | Resistor, Fixed, WW, 0.1 ohm, 4 W | |
| R5 | | Resistor, Fixed, Carbon, 100 ohm, 5%, 1/2 W | |
| R8,R18,R41 | | Resistor, Fixed, Carbon, 10 ohm, 5%, 1/2 W | |
| R9,R22,R30 | | Potentiometer, 5K ohm | |
| R11,R21,R29 | | Potentiometer, 1K ohm | |
| R12 | | Resistor, Fixed, Carbon, 7.5K ohm, 5%, 1/2 W | |
| R13 | | Resistor, Fixed, Film, 6.95K ohm, 1%, 1/2 W | |
| R14,R26,R34 | | Resistor, Fixed, Film, 10K ohm, 1%, 1/2 W | |
| R15,R16,R25,<br>R33,R36,R38 | | Resistor, Fixed, Carbon, 5.1K ohm, 5%, 1/2 W | |
| R17 | | Resistor, Fixed, Film, 11.3K ohm, 1%, 1/2 W | |
| R24,R32 | | Resistor, Fixed, Film, 4.64K, 1%, 1/2 W | |
| R27 | | Resistor, Fixed, Carbon, 0.20 ohm, 5%, 1 W | |
| R35,R37 | | Resistor, Fixed, Carbon, 22K ohm, 5%, 1/2 W | |
| R39,R40 | | Resistor, Fixed, Carbon, 20 ohm, 5%, 1/2 W | |
| T1 | 24TH03146A001 | Transformer, Power | |
| U1,U3,U4 | MC1723 | Voltage Regulator | |
| U2,U4,U6 | MC3423 | Overvoltage Sensing Circuit | |

TABLE 4-5. Rear Panel Assembly Parts List

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFEC- TIVITY |
|---|---|---|---|
| | 80NW9619A09 | Circuit Breaker, Push to Reset | M |
| | 59NW9807A13 | Fan (Rotron CR2A1) | M |
| | 35BW1022X02 | Screen, Fan | M |
| | 42NW9401A48 | Bushing, Strain Relief, AC Input Cable | M |
| | 30BW1674X01 | Cable, AC Input (Table 4-9) | M |
| | 30BW1635X01 | Cable, RS-232C Interface (Table 4-10) | M |
| | 30BW1676X01 | Cable, Fan (Table 4-11) | M |

TABLE 4-6. Front Panel Assembly Parts List

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFEC- TIVITY |
|---|---|---|---|
| | 01DW1733X01 | LED Circuit Board (Table 4-12) | L |
| | 40NW9801A95 | Switch, Push Button, 2 PST, Power | L |
| | 38NW9404A87 | Button, Neon Window (Use on Power Switch) | L |
| | 30BW1675X01 | Cable, Power Switch (Table 4-13) | L |

TABLE 4-7. Power Supply Cable Parts List (Early)

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFEC- TIVITY |
|---|---|---|---|
| | 15NW9806A30 | Housing, Connector, 10 Contact, Positive Lock | L |
| | 29NW9805A87 | Contact; Socket, 20-14 AWG (10 required) | L |
| | 29NW9805A51 | Contact, Socket, 20-14 AWG (Alternate) | L |
| | 29NW9805A78 | Terminal, Ring, Vinyl Insulated 12-10 AWG (2 required) | L |
| | 29NW9805A77 | Terminal, Ring, Vinyl Insulated, 22-16 AWG (8 required) | L |

TABLE 4-8. Power Supply Cable Parts List (Late)

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFECTIVITY |
|---|---|---|---|
| J1 | 15NW9806A30 | Housing, Connector, 10 Contact, Positive Lock | K |
| J2 | 15NW9806A97 | Housing, Connector, 12 Contact, Positive Lock | K |
|  | 29NW9805A87 | Contact, Socket, 20-14 AWG (20 required, use in J1 and J2) | K |
|  | 29NW9805A51 | Contact, Socket, 20-14 AWG (Alternate) | K |
|  | 29NW9805A77 | Terminal, Ring, Vinyl Insulated, 22-16 AWG (1 required) | K |

TABLE 4-9. AC Input Cable Parts List

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFECTIVITY |
|---|---|---|---|
|  | 30NW9301A95 | Cord, Power, 3 Conductor with Molded Grounding Plug | M |
|  | 29NW9805A96 | Receptacle, Push on, Fully Insulated, Red (Faston 187S) (4 required) | M |
|  | 29SW999B616 | Terminal, Ring, Vinyl Insulated, 22-16 AWG | M |
|  | 29NW9805A69 | Splice, Butt, Vinyl Insulated, Red, 22-16 AWG | M |

TABLE 4-10. RS-232C Interface Cable Parts List

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFECTIVITY |
|---|---|---|---|
|  | 28NW9802C42 | Connector, Receptacle, 25 Pin, Amp 91123-3 (RS-232C) | M |
|  | 28NW9802B23 | Connector, Edge, Ribbon Cable Type with Cover, Amp 91109-1 | M |
|  | 30NW9302A12 | Cable, Flat Ribbon, 20 conductor, 28 AWG | M |

TABLE 4-11. Fan Cable Parts List

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFECTIVITY |
|---|---|---|---|
|  | 30NW9301A04 | Line Cord with Plug | L |
|  | 29NW9805A96 | Receptacle, Push on, Fully Insulated, Red (Faston 187S) (2 required) | L |

TABLE 4-12. LED Circuit Board Parts List

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFEC-TIVITY |
|---|---|---|---|
| | 84DW6733X01 | Printed Wiring Board, LED | L |
| CR1,CR2 | 48NW9612A25 | LED, Subminiature Type (2 required) | L |
| | 30BW1660X01 | Cable, LED Board (Table 4-14) | L |
| ABORT, RESTART | 40NW9801B07 | Switch, Pushbutton, SPDT Momentary Contact (2 required) | L |

TABLE 4-13. Power Switch Cable Parts List

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFEC-TIVITY |
|---|---|---|---|
| | 29NW9805A96 | Receptacle, Push on, Fully Insulated, Red (Faston 187S) (4 required) | M |

TABLE 4-14. LED Board Cable Parts List

| REFERENCE DESIGNATION | MOTOROLA PART NUMBER | DESCRIPTION | EFFEC-TIVITY |
|---|---|---|---|
| | 28NW9802A17 | Connector, DIL, 16 Pin 3M 3416-0000 (2 required) | K |
| | 30NW9302A08 | Cable, Flat Ribbon, 16 conductor, 28 AWG | |

**MOTOROLA INC.**
*Integrated Circuits Division*

Microsystems • 3102 North 56th Street • Phoenix, Arizona 85018

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